

Work Order ID 149424 - 1 split

Monday, July 25, 2016 1:14:46 PM

149424

DRAB GREEN

Page 1

Item ID: D2803-042

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Bracket Assembly

Stop

NS2

Start Date: 9/27/2016

Start Qty: 12.00

12

Required Date: 9/30/2016

Req'd Qty: 12.00

12

Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: 245 Date: JUL 26 2016

Tooling:

Date:

Run Start

NR1

QC: 27

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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D2803	C
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100

0.00

100

Small Fab

Small Fab

Memo

0.14

Small Fab

Press D2805-2 and D2809 into arm as per Dwg D2803

12X

16/08/29

110

QC5- Inspect part completeness to step on W/O

0.00

110

QC

Memo

0.04

Quality Control

12

DAS
38
9.20

AUG 29 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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								Completed By																	
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								QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																							
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Work Order ID 149424

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149424

Page 2

Item ID: D2803-042

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Bracket Assembly

Start Date: 9/27/2016 Start Qty: 12.00

12

Cust Item ID:

Required Date: 9/30/2016 Req'd Qty: 12.00

12

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
125		0.00							
125						4			
SprayPaint	Memo	0.00							
Spray Painting	PRIME B <u>135172</u>								DAS 41 9-89
	SPRAY PAINT DRAB GREEN								
	B <u>135413</u>								16-09-16
	PER QSI005								
135	QC14- Inspect Spray Paint	0.00							DAS 38 9-89
135						(4)			
QC	Memo	0.00							
Quality Control									SEP 19 2016
150		0.00							
150						4X			
Small Fab	Small Fab								DAS 36 9-89
Small Fab	Memo	0.16							16/09/16
	Assemble as per Dwg D2803.								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 *160* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.04			DAS 30 9-89	(4)			SEP 20 2016
170 *170* Packaging Packaging	Identify as per dwg & Stock Location: <i>W/O</i> Memo <i>149464</i>	0.00 0.02				<i>4x</i>			<i>16/09/21</i> DAS 36 9-89
180 *180* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.20			DAS 21 9-89				SEP 21 2016 DAS 21 9-89 SEP 21 2016

DQA: _____ Date: _____



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Picklist Print

Monday, July 25, 2016 1:14:45 PM

Page 1

Work Order ID: 149424

149424

Parent Item: D2803-042

D2803-042

Parent Item Name: Bracket Assembly

Start Date: 9/27/2016

Required Date: 9/30/2016

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP F05.03.30MS21043-3 was MS21042L3KJ/JLM IPP REV:G
16.06.23 AS PER DWG REV.C DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2803-2		Manufactured	No			100	Each	4.0000	1	12			
D2803-2									**				
Bracket													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST473				4					
				146565				4					
D2805-2		Manufactured	No			100	Each	14.0000	1	12			
D2805-2									**				
Stop													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				GA				14					
				130072				4					
				146663				10					
D2809		Manufactured	No			100	Each	33.0000	1	12			
D2809									**				
Washer													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				GA				8					
				127638				4					
				130466				2					
				146514				2					
				ST011				25					
				138750				14					
				34035				11					

16/08/29

B149324 (12x)

16/08/29

B149476 (10x)

2

16/09/19 DAS 36 9-89

149434 (4x)

DQA: _____ Date: _____



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Description Work Order Deviation				Disposition				Completed By																																																							
								Lead hand / Supervisor Approval Verification																																																							
										QC / QA Coordinator Approval																																																					
Root Cause		FAULT CATEGORY																																																													
Environment ☐	Design ☐	Doc/Data ☐	Equip/Tooling ☐	Handling/Pre ☐	Material ☐	Internal Transport ☐	Tribal Knowledge ☐	LOA ☐	Substation ☐	Past Expiry Date ☐	Misidentified ☐	No Re-verification ☐	Operator ☐	Offset/Setup ☐	Supplier ☐	Training ☐	Use for Testing ☐	Poor Information ☐	Rushing ☐	Product Improvement ☐	Process Improvement ☐	Manufacturing Process ☐	Past Due ☐	Pressure/Forced ☐	Bending ☐	Centre Not Concentric ☐	Cracks ☐	Crimp/Kink/Ripple/Wave ☐	Cuffs ☐	Crushing ☐	Heat Treat ☐	Wave/Twist in Tube ☐	Marks/Chatter ☐	Temperature/Cure ☐	Set-up ☐	BOM/Route ☐	Broken/Damage/Defect ☐	Inspection Incomplete/Unqualified ☐	Contamination ☐	Countersink ☐	Cut Too Short ☐	Instructions Incomplete/Unclear ☐	Drill Holes ☐	Power Loss/Surge ☐	Folio/Program ☐	Grain ☐	Weld ☐	Wrong Stock Pulled ☐	Out of Sequence ☐	Off-set ☐	Mislabeled ☐	Fit/Function ☐	Misaligned/off center ☐	Positioned Wrong ☐	Outside Dimensions ☐	Over/Under tolerance ☐	Part Incorrect ☐	Part Lost/Missing ☐	Part Moved ☐	Drawing ☐	Finish ☐	Misread ☐	Turning Sequence ☐
																							OTHER :																																								

Picklist Print

Monday, July 25, 2016 1:14:45 PM

Page 2

Work Order ID: 149424

149424

Parent Item: D2803-042

D2803-042

Parent Item Name: Bracket Assembly

Start Date: 9/27/2016

Required Date: 9/30/2016

Start Qty: 12.00

Required Qty: 12.00

AN3C16A

Purchased

No

150

Each

89.0000

2

24

AN3C16A

BOLT

16/09/19
DAS
36
9-89

Location

Loc Qty

Loc Code

ST348

89

m131153

2

m131957

12

m134955

75

D3672-15

Manufactured

No

150

Each

231.0000

4

48

D3672-15

Phenolic Washer

16/09/19
DAS
36
9-89

Location

Loc Qty

Loc Code

ST050

231

148073

231

MS21043-3

Purchased

No

150

Each

920.0000

2

24

MS21043-3

Nut

16/09/19
DAS
36
9-89

Location

Loc Qty

Loc Code

FG

80

103691

80

FP001

11

m130673

11

GA

237

m133990

237

OVER007

400

m135058

400

ST302

86

m134861

86

ST304

106

m131340

106

Monday, July 25, 2016 1:14:45 PM

Shop Packet Print

Page 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

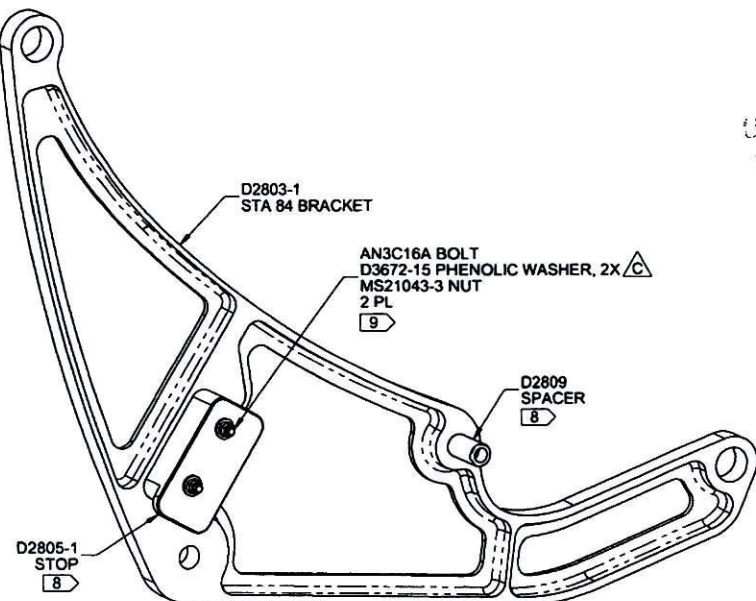
QA Closed: _____ Date: _____

Work Order update only ☐

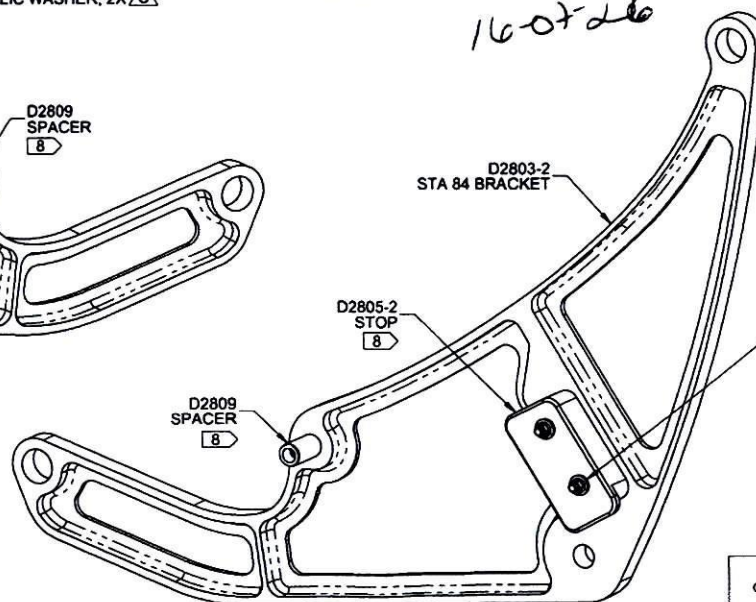
Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	☐	Manufacturing Process ☐	OTHER : _____						
Misidentified ☐	☐	Past Due ☐							

SHOPLIST
 BY: [illegible]
 DATE: 16-07-2016
 UNCONTROLLED COPY
 SUBMITTED FOR REVIEW
 WITH: 16-07-2016
 WORK ORDER NO. 149424 M.G.
 160726

ITEM	QTY -041	QTY -042	P/N	DESCRIPTION
	X		D2803-041	BRACKET ASSY
		X	D2803-042	BRACKET ASSY
1	1		D2803-1	STA 84 BRACKET
2		1	D2803-2	STA 84 BRACKET
3	1		D2805-1	STOP
4		1	D2805-2	STOP
5	1	1	D2809	SPACER
6	4	4	D3672-15	PHENOLIC WASHER
7	2	2	AN3C16A	BOLT
8	2	2	MS21043-3	NUT, SELF-LOCKING



D2803-041 BRACKET ASSY



D2803-042 BRACKET ASSY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT "GLOSS WHITE" (4.3.5.1) OR "GREY SANDTEX" (4.3.5.6) OR "BLACK SANDTEX" (4.3.5.7) OR "GREEN SANDTEX" (4.3.5.8) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER DART QSI 044 6.1
- 7) WEIGHT: 1.58 lbs
- 8) PRESS D2805-X AND D2809 INTO PLACE PRIOR TO POWDER COAT
- 9) INSTALL BOLT WITH LPS-3 CORROSION INHIBITOR, ENSURE NO LPS-3 ON THREADS

RELEASED

2016 JUN 22 4P
 ECN 16-601

C	REVISE TO CURRENT FORMAT: ADD DETAILS A AND F AND SECTION E-E: D3672-15 WAS NAS151SH3. ZONES C3-3/C8-4 AND B3-3/B8-3: 2.656 WAS 2.654 AND 0.438 WAS 0.437; REASON: CAD ERROR.	MB	16.04.11
B	ADD CUTOUTS AND -043/-044	CP	04.11.22
A	NEW ISSUE	CP	00.11.07
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	MB		
CHECKED	ML	DRAWING NO.	REV. C
MFG. APPR.	JLM	D2803	SHEET 1 OF 4
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	STA 84 BRACKET	NTS
DATE	16.04.11	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	

APPROVED

DQA: _____ Date: _____

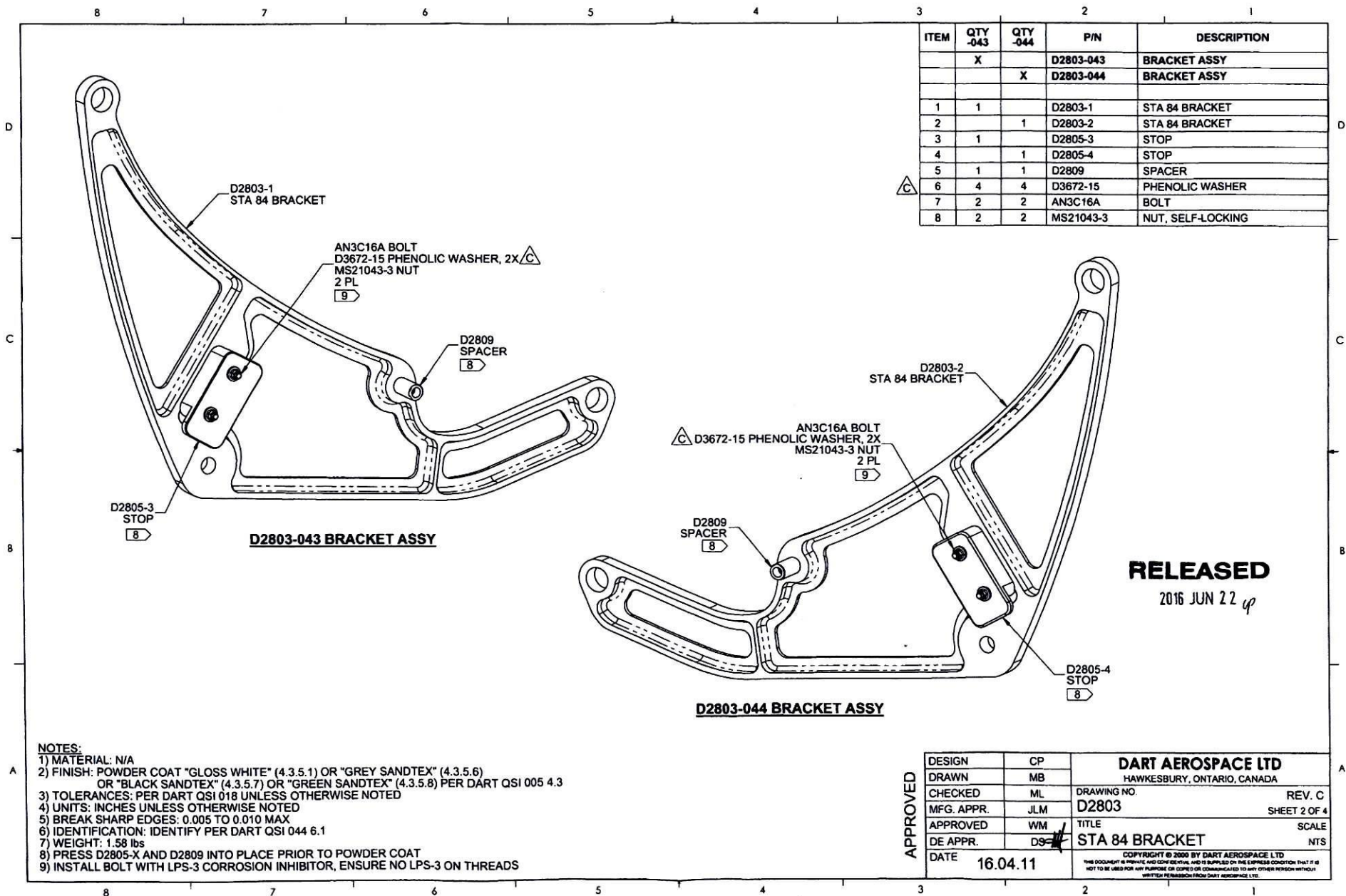


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					



DQA: _____ Date: _____

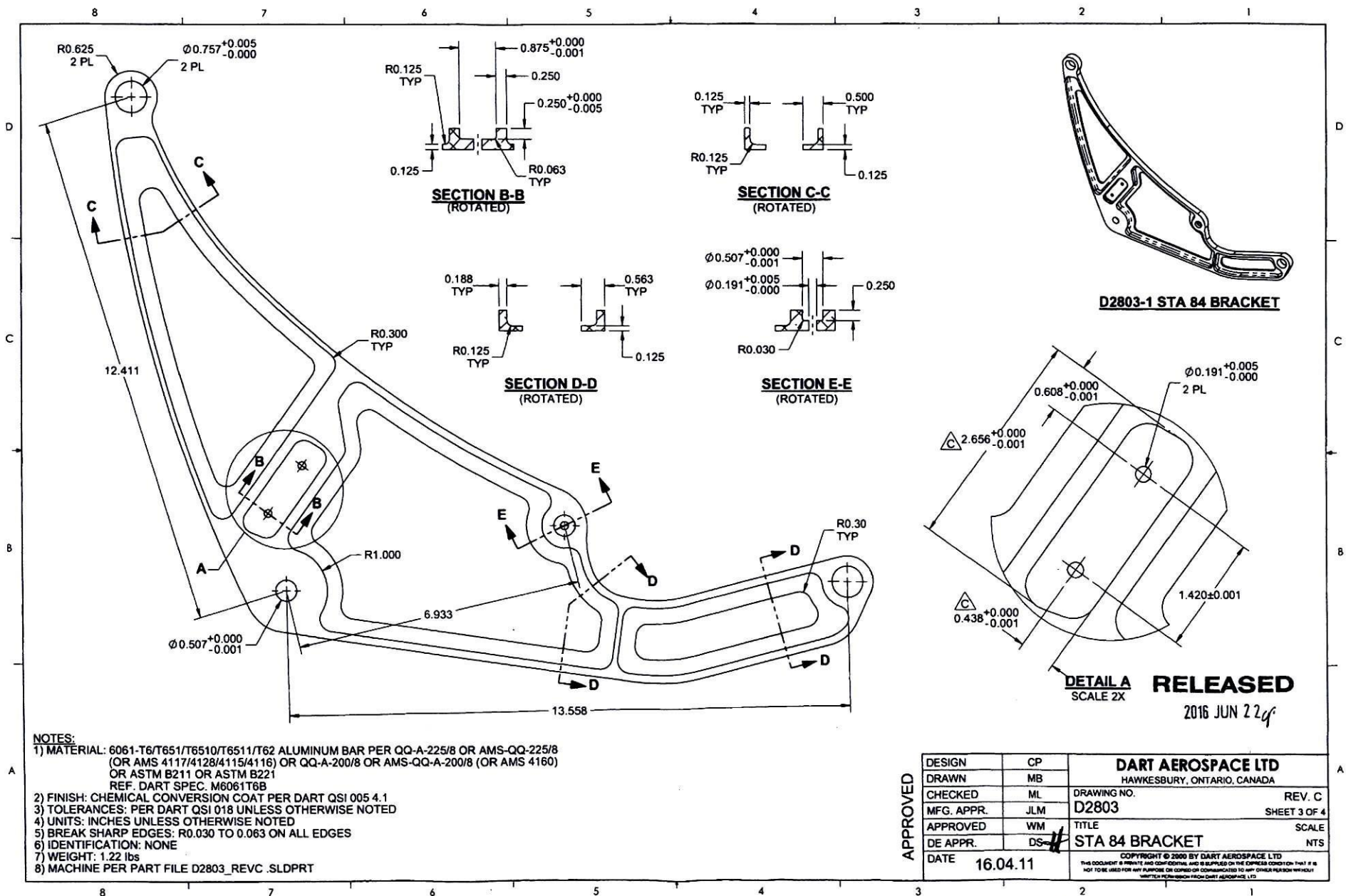


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
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DQA: _____ Date: _____



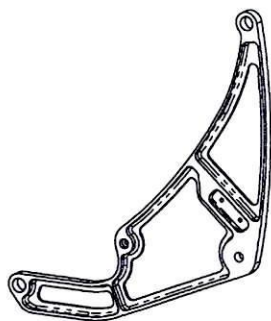
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

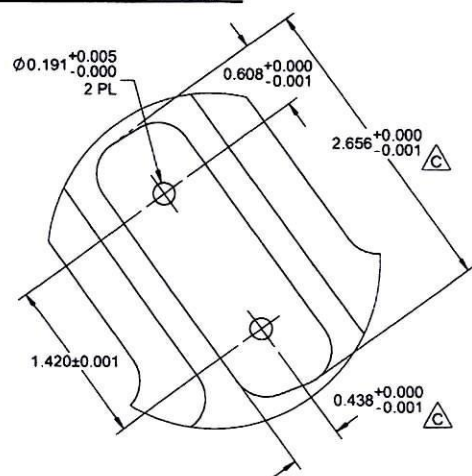
Work Order update only ☐

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Date :	Step #:	QTY Effective :		MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation		Disposition			

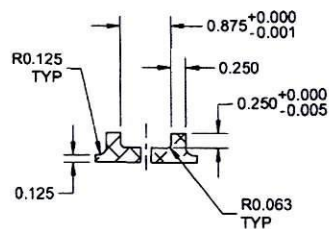
Root Cause	FAULT CATEGORY		
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐
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OTHER : _____			



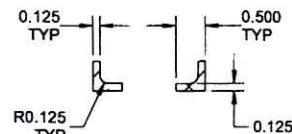
D2803-2 STA 84 BRACKET



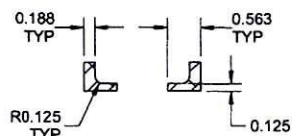
DETAIL F
SCALE 2X



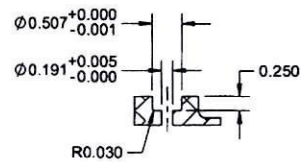
SECTION G-G
(ROTATED)



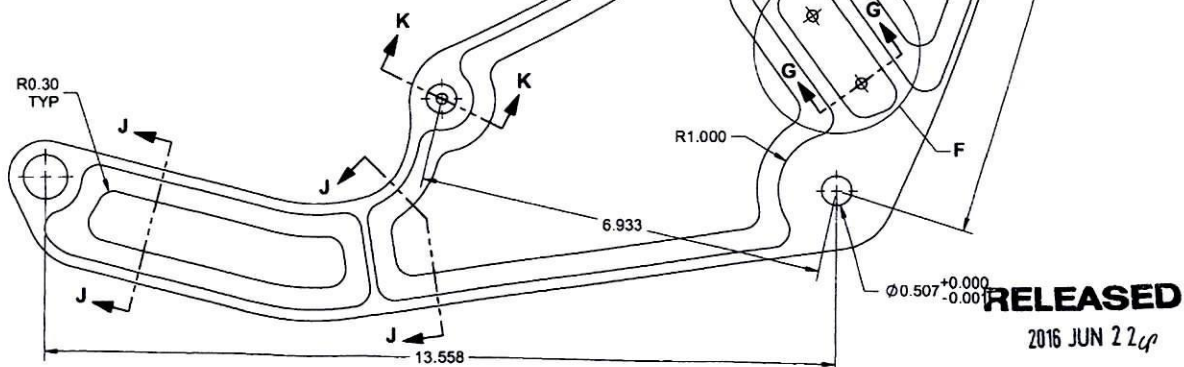
SECTION H-H
(ROTATED)



SECTION J-J
(ROTATED)



SECTION K-K
(ROTATED)



RELEASED
2016 JUN 22 4P

NOTES:

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-225/8 (OR AMS 4117/4128/4115/4116) OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160) OR ASTM B211 OR ASTM B221
REF. DART SPEC. M6061T6B
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: R0.030 TO 0.063 ON ALL EDGES
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 1.22 lbs
- 8) MACHINE PER PART FILE D2803_REV.C.SLDPR

APPROVED	DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
	DRAWN	MB		
	CHECKED	ML	DRAWING NO.	REV. C
	MFG. APPR.	JLM	D2803	SHEET 4 OF 4
	APPROVED	WM	TITLE	SCALE
	DE APPR.	DS	STA 84 BRACKET	NTS
	DATE	16.04.11	COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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